

REMARKS

I. CONTINUED SPECIAL STATUS

Applicant respectfully reminds the Examiner that this application continues to have special status. Accordingly, its examination has priority over examination of other, non-special applications, and the guideline of responding to an applicant's communication within 30 days of its forwarding to the examiner should be observed, instead of the normal 60 days.

II. ENTRY OF AMENDMENT I

The Office Action states (see page 24, lines 9-15) that the limitation "preventing knowledge" is not found in claims 52, 62, 105, 115, 148, and 158. This is incorrect. Since Amendment I was filed on February 22, 2008, claims 52, 105, and 148 have included the limitation "a data security component for preventing knowledge of any given prospective transaction entry...". Similarly, since Amendment I, claims 62, 105, and 158 have included the limitation "preventing knowledge of any given prospective transaction entry...". Please see Amendment I and the discussion therein. These limitations are well-supported by the original specification, which discusses at length the need to notify the counterparties simultaneously so that one party does not gain knowledge of the match before the other. Knowledge of the match by one party before the other allows the knowledgeable party to gain therefrom, and results in market movement, information leakage, and data security problems.

Amendment I was an after-final amendment, and was denied entry by an Advisory Action dated March 28, 2008. When a Request for Continued Examination (RCE) is subsequently filed (an RCE was filed on October 30, 2009), the finality of the previous Office Action is withdrawn, and any amendments that were previously refused entry by an Advisory Action are entered, along with any further amendment that accompanies the RCE. Please see 37 CFR 1.114.

Please see also MPEP 706.07(h)(III)(D):

"Treatment of Proper RCE"

If the conditions for filing an RCE have been satisfied, the technical support personnel will process the proper RCE. Any previously filed unentered amendments, and amendments filed with the RCE will normally be entered. Such amendments will be entered in the order in which they were filed in the absence of any specific instructions for entry. For example, if applicant files an amendment after final rejection which is denied entry by the examiner and applicant subsequently files an RCE with an amendment but the RCE is silent as to whether or not the previously filed after-final amendment should be entered, then the Office will enter both amendments in the order in which they were filed."

Moreover, the preface to Applicant's Amendment J filed on October 30, 2009, clearly explained the situation so that the claim changes included in Amendment I would not be missed:

"A request for continued examination (RCE) is being submitted concurrently with this amendment. Please enter the previous amendment (Amendment I, submitted February 22, 2008) and continue examination. Applicant also requests that the application be further amended as follows. Please note that these further changes are shown versus the claims as they were amended in Amendment I, since Amendment I will be entered automatically as a result of the RCE."

In sum, the claim changes included in Amendment I should have been entered as a result of the RCE. Applicant again requests that those claim changes be entered. From now on, examination should take into account these additional claim limitations.

III. INDEPENDENT CLAIMS 1, 18, 35, 51, 52, 62, 78, 94, 105, 115, 121, 137, 148, AND 158 – 103 REJECTION – SEC REFERENCE IN VIEW OF GUTTERMAN '031

A. Non-Obviousness of Modifying LimiTrader's Order Entry System From a Simple Dial-Up System to an Integrated Order Management System (OMS)

The Office Action states (page 5) that it would have been obvious at the May 1999 date of the invention to switch LimiTrader's order entry system from a simple dial-up system to an integrated Order Management System (OMS). However, two different experts in the OMS field, who together have almost 40 years experience in the financial securities business specifically focused on OMS development, implementation, and integration, say differently. In sworn declarations, these experts show why the proposed modification would not have been obvious in May 1999.

The expert declarations are attached as Exhibits 1 and 2, and are discussed further below. First, it is appropriate to review the reasons why the proposed modification would not have been obvious:

1. Switching LimiTrader from Individual Dial-Up Input to an Integrated OMS Would Disable Its Important Individualized Features, Rendering Such a Modification Non-Obvious.

Key portions of the LimiTrader system demand individual interaction with the system – the sort of interaction that is readily available with individuals dialing into the system via their PC, but

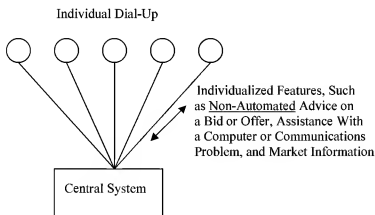
not via an integrated OMS.

For example, the LimiTrader system offers individual users non-automated assistance, such as advice on a bid or offer, assistance with a computer or communications problem, and market information (see SEC reference, page 9 at n2; page 5 at n10). This can be easily done when individuals dial into the system via their PCs, but not via an integrated OMS which makes use of only the data available in the OMS.

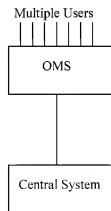
Said another way, when you choose to interpose an OMS between individual users and the central system, you lose the ability to dictate how initial data entry and storage will be done. Instead, you get only the information that is available in the OMS, and you do not get to receive into your central system additional information like individualized non-automated assistance requests. Indeed, the only way to receive such additional information is by also modifying the OMS itself, before integrating it with the central system – and this certainly would not be obvious, given that these OMSs are separately-owned and not freely modifiable. Said yet another way, in order to retain LimiTrader's individualized features, one would have to first modify the OMS, then also modify the LimiTrader system by grafting the OMS onto it. This kind of double, sequential modification is clearly outside the realm of obviousness.

The diagram below illustrates this point very well (see also Applicant's Amendment H filed 11/12/2007, page 7):

LimiTrader: Users dial into the system via their PCs, and can receive individualized, non-automated advice on many important topics.



LimiTrader With Proposed Integrated OMS: The OMS blocks individual interaction with the central system, thus disabling advantageous features.



In sum, modifying LimiTrader to receive indications of interest or prospective transaction entries via an integrated OMS would disable its individualized features – which are important, advantageous parts of the LimiTrader system. A modification which renders the prior art unsatisfactory is simply not obvious, as stated in MPEP 2143.01:

“If [the] proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)”.

2. Modifying LimiTrader to Switch from Individual Dial-Up Input to an OMS Would Not Be Obvious, Because It Would Alter LimiTrader’s Operating Principles.

MPEP 2143.01 states: “If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F. 2d 810, 123 USPQ 349 (CCPA 1959)”.

The method that users employ to interact with a system – i.e., the method of input – is clearly a basic operating principle of the system. And here, input through individual dial-up connections is a basic operating principle of LimiTrader, which is emphasized time and again in the SEC reference. Just a few examples follow:

- “LimiTrader is a dial-up system. At any time, 24 hours a day, a participant may call up LimiTrader on his existing personal computer using an error checking system and standard telephone circuits.” See Page 5, Section D; Page 9 at *26.
- “LimiTrader functions through the existing public switch-telecommunications network” See Page 5, Section D.
- “Once a participant has logged in, using three separate identification codes and a personal password...” See Page 10 at *30.
- “LimiTrader will dial-up the participant that entered the existing orders.” See Page 3 at *8.

3. Switching the SEC Reference from Individual Dial-Up Input to an Integrated OMS Would Also Negate The Advantages of Its Simple Dial-Up System, Also Rendering Such a Modification Unobvious.

Switching the SEC reference from individual dial-up input to an integrated OMS would alter its dial-up operating principle, and thus negate the advantages of a simple dial-up system that operates on standard telephone circuits, through the existing publicly-available telecom network. These simplicity advantages, which allow a great number of users to connect with and use the system easily, without having to employ complex software, are clearly an intended purpose of the LimiTrader system. Indeed, the simplicity advantages are touted in the SEC reference.

More specifically, the LimiTrader system is positioned as advantageous because it is a simple dial-up system that operates on standard telephone circuits, through the existing publicly-available telecom network. Switching the system to an integrated OMS for input purposes would negate these advantages and would instead require the complex integration of secure, private telecom circuits.

Further, modifying the SEC reference to use an integrated OMS would negate the advantages of its simple dial-up system – and a simple dial-up system is an intended purpose of the LimiTrader system, touted in the SEC reference. A modification which renders the prior art unsatisfactory is simply not obvious, as MPEP 2143.01 states:

“If [the] proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)”.

In sum, to make an integrated OMS work with the LimiTrader system one must either:

- 1) Switch from a dial-up system, altering a basic operating principle of LimiTrader and negating the touted advantages of LimiTrader’s simple dial-up system,

OR:

- 2) Try to make the OMS function with LimiTrader’s existing dial-up system over regular phone lines, in which case LimiTrader would be rendered sub-optimal and slow.

Either way, the proposed modification is disadvantageous – not advantageous – and it is therefore not obvious.

3. The Expert Declarations Support the Above Arguments, and Provide Even Further Reasons Why the Proposed Modification Would Not Have Been Obvious.

Sworn declarations from Steven Levy and Rolando Rabines, both experts in the OMS field, are

attached as Exhibits 1 and 2. In the declarations, Mr. Levy and Mr. Rabines state how their extensive educational background and professional experience gives them the understanding and expertise needed to make the correct judgment regarding non-obviousness. Mr. Levy and Mr. Rabines do not make mere conclusory statements that the proposed modification would not be obvious. Instead, they show *why* the proposed modification would not be obvious, fully supporting their conclusions with detailed explanations.

Moreover, Mr. Levy shows why the configuration that the Office has suggested would “get around” the problem caused by an integrated OMS cutting off LimiTrader’s important individualized interaction features – i.e., a two interface system wherein individuals would input orders into the central system via an OMS, with a dial-up system “on the side” which would involve the individuals placing orders via the OMS dialing into the central system to receive non-automated assistance on those orders – would not be workable or economically viable. As the declaration states, a configuration like that would entail unnecessary duplication of the contact interface between order placers and the central system (i.e., place orders using one interface, but do everything else using another, completely separate interface). Such duplicate interfaces would require constant communication and reconciliation to ensure that information received from, and provided to, an order-placer via one contact interface matched the information received from, and provided to, an order-placer via the other contact interface. Multiple interfaces are more expensive to operate and carry the risk of mismatched, inconsistent data.

Further, both Mr. Levy and Mr. Rabines identify additional reasons why modifying LimiTrader to input orders via an integrated OMS would not have been obvious as of May 1999. Specifically, Mr. Levy points out that the lack of data security in the LimiTrader system (existing-order parties receive notice of a match before an incoming-order party, and can benefit from that information by simply choosing not to contact the incoming-order party) means that OMS users would severely limit what information is sent through the OMS to the central matching system. Indeed, Mr. Levy states that it would not be uncommon for traders to insist that the systems not be integrated in cases like this. (See Levy declaration, paragraphs 6-10.)

Mr. Rabines points out that LimiTrader has a closed system design and architecture, and was not designed to be integrated with other systems. Switching LimiTrader from a dial-up order input system to an integrated OMS would not have been possible without a substantial redesign and rewrite of the LimiTrader system – making integration with an OMS not only impractical, but unthinkable. (See Rabines declaration, paragraphs 7-18.)

Among other things, LimiTrader does not have an ‘open’ architecture, for example one built around a SQL Relational database that would allow other systems to access and modify business data in a transactionally robust manner. It also does not have a “real-time” system architecture,

which can support event-driven message based integration across systems. LimiTrader does not have the ability to publish events or provide a transactionally-safe, service-oriented application program interface (API), both of which are important technical requirements for a trading system which will be integrated with an OMS. LimiTrader also does not include support for critical business functions such as block trading, 24 hour trading or international trading – and without this support, integrating LimiTrader with an OMS would have been impossible, because an OMS does provide these critical business functions.

In addition, Mr. Rabines notes that the dial-up system used by LimiTrader to communicate with parties would be inadequate to support the equity trading decisions and workflows from the OMS, and that LimiTrader's 30-minute backup recovery capability would be unacceptable to the OMS market.

Finally, Mr. Rabines agrees that LimiTrader's non-secure matching approach is not suited for the OMS market. In Mr. Rabines's expert opinion, it is unthinkable that OMS traders would direct any order flow into a matching system such as LimiTrader that notifies multiple parties of possible matches. OMS traders would require that they be immediately and simultaneously notified of any match, and that only one match be proposed at a time. LimiTrader was not designed to support this requirement.

B. Non-Obviousness of Switching LimiTrader's Match Notification Method to the Invention's Very Different Match Notification Method

The Office Action now recognizes that the match notification method in the claims is not met by LimiTrader's match notification method, which does not notify both counterparties simultaneously as in the claims, and in fact does not notify both counterparties at all. Instead, LimiTrader notifies two existing-order parties at a time, and depends entirely on them to notify the incoming-order party.

However, the Office Action now contends (pages 4-5) that it would have been obvious at the May 1999 priority date of the invention to modify LimiTrader's match notification method so that both counterparties are notified, and both counterparties are notified simultaneously as well. However, five different experts in the field of crossing/matching systems for trading financial securities, who have over 120 years combined experience in the financial securities business including explicit familiarity with the various innovations in crossing and matching trading systems, say differently. In sworn declarations, these experts show why the proposed modification would not have been obvious in May 1999.

The expert declarations are attached as Exhibits 3 to 7, and are discussed further below. First, it is appropriate to review the reasons why the proposed modification would not have been obvious:

1. Modifying LimiTrader to Switch to the Invention's Very Different Match Notification Method Would Not Be Obvious, Because It Would Alter LimiTrader's Operating Principles.

Modifying LimiTrader to the invention's very different match notification method would entail significantly changing the very core of the LimiTrader system as detailed in page 3, *8 of the SEC reference. The way users are informed of a potential match, as well as the way users interact with the system and with each other, are fundamental operating principles of any matching system. Changing these aspects would thus alter LimiTrader's basic operating principles.

As MPEP 2143.01 states:

"If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F. 2d 810, 123 USPQ 349 (CCPA 1959)".

2. Modifying LimiTrader to Switch to the Invention's Very Different Match Notification Method Would Also Not Be Obvious Because It Would Involve Significant Trade-Offs, and Several Key Advantages of LimiTrader's Method Would be Lost.

In addition, such a change would not have been obvious because several key advantages of LimiTrader's advantages of LimiTrader's method and protocol for match notification would be lost. Specifically, contacting only multiple existing-order parties, as LimiTrader does, has a success probability, efficiency and speed advantage versus contacting the matching counterparties coincidentally, as the invention does. If the matching counterparties are contacted coincidentally, there is a chance that one side or the other won't be interested, and then the system must start all over again.

If multiple existing-order parties are contacted first, as in LimiTrader, there is a better chance that at least one of the existing-order parties will be interested. Then when the existing-order party contacts the incoming-order party, the chances that a trade will occur are higher because the existing-order party is already guaranteed to be interested – otherwise it would not have contacted the incoming-order party.

Success probability, efficiency and speed are very important in trading system operations, and clearly it is important to LimiTrader. Indeed, the combined advantages of success probability, efficiency and speed are a key reason that LimiTrader calls two existing-order parties at a time –

to speed up the trading process and increase the odds that at least one of the existing-order parties will be interested.

In sum, LimiTrader's match notification method and the invention's match notification method are simply two different approaches. Neither of the approaches is better than the other – instead, each has its own advantages and disadvantages, and thus it would not be obvious to switch from one approach to the other.

3. The Expert Declarations Support the Above Arguments.

Sworn declarations from Chris Hynes; Stephen Bookbinder; Davis Gaynes; Richard Holway; and Gregory McFarland, all experts in the field of crossing/matching systems for trading financial securities, are attached as Exhibits 3 to 7. In the declarations, these experts state how their extensive educational background and professional experience gives them the understanding and expertise needed to make the correct judgment regarding non-obviousness. The experts not make mere conclusory statements that the proposed modification would not be obvious. Instead, they show why the proposed modification would not be obvious, fully supporting their conclusions with detailed explanations.

Messrs. Hynes, Bookbinder, Gaynes, Holway, and McFarland all state unequivocally that modifying the LimiTrader system to switch from notifying existing-order parties only to notifying both counterparties simultaneously would not have been obvious as of Shaw's May 1999 priority date, because it would entail significantly changing the stated purpose and very core of the LimiTrader system. The experts agree that the way users are informed of a potential match, as well as the way users interact with the system and with each other, are fundamental operating principles of any matching system. They also agree that changing these aspects would alter LimiTrader's central purpose and basic operating principles.

The experts further agree that such a modification would have been expensive, technically complex, and logistically difficult. The experts agree that this would have required assembling a team of highly specialized technology and trading experts to build the functionality necessary for such a modification.

In addition, the experts agree that such a change would not have been obvious because certain advantages of LimiTrader's method and protocol for match notification would be lost. The experts all point out that contacting only multiple existing-order parties, as LimiTrader does, has a success probability, efficiency and speed advantage versus contacting the matching counterparties coincidentally, as Shaw does. And they clearly explain the source of this advantage that would be lost.

The experts further agree that success probability, efficiency and speed are very important in trading system operations, and that it is clearly important to LimiTrader. They also agree that the combined advantages of success probability, efficiency and speed are a key reason that LimiTrader calls two existing-order parties at a time – to speed up the trading process and increase the odds that at least one of the existing-order parties will be interested. It simply would not be obvious to give up such important advantages.

C. Claimed Features Lacking – Data Security Component.

In addition, to reiterate what was discussed in Amendments I and J, the LimiTrader system does not meet the data security component of the invention, now that ‘restricting access’ has been changed to ‘preventing knowledge’ in independent claims 52, 62, 105, 115, 148, and 158.

The claims now define a very detailed, specific data security component, whereas the SEC reference merely outlines a very general security objective:

“The company has in place security procedures reasonably designed to (i) prevent unauthorized access to LimiTrader, both by employees of the Company or the clearing broker, by participants in the system and by persons not affiliated with the Company, the clearing broker or the system, and (ii) to safeguard the system against threats to the proper functioning of the system..” SEC reference at page 9.

The SEC reference’s very general security objective cannot reasonably be construed to disclose or suggest that the LimiTrader system prevents knowledge of a party’s offer by the other side, as defined in the amended claims.

In fact, with LimiTrader the opposite is true – after an existing-order party obtains knowledge of an incoming-order party’s offer, the existing-order party can “stand pat” and not reveal his own offer to the incoming-order party. Said another way, after receiving the information that a match to his order exists, an existing-order party can opt not to respond and not negotiate (see SEC ref. page 3: “If the holder of an existing order does not wish to negotiate, no action is required.”). The existing-order party – and any other existing-order party notified by LimiTrader – thus gets valuable information that someone is selling what he’s buying, or vice-versa, without the contraparty ever knowing anything.

In sum, the “one-sided notification” that LimiTrader uses has significant negative implications for data security and confidentiality. With LimiTrader, existing-order parties get knowledge of a match whereas the party with the just-submitted order may not. Thus the LimiTrader system

does not provide the total confidentiality that is a key objective of Applicant's invention, and which prevents the market movement that occurs when one party knows and not the other.

D. Claimed Features Lacking – Data Security Component.

Further, to reiterate what was discussed in Amendment I, the LimiTrader system also does not meet the match notification content aspect of the claims. The SEC reference makes no mention of what LimiTrader's notification message contains (i.e., its content), and thus does not meet independent claims 52, 62, 105, 115, 148, and 158 which define that the notification message "includ[es] the transaction message corresponding to each of the matching entries."

III. DEPENDENT CLAIMS

Finally, because independent claims 1, 18, 35, 51, 52, 62, 78, 94, 105, 115, 121, 137, 148, and 158 define patentably over the prior art as discussed above, their respective dependent claims 2-17, 19-34, 36-50, 68-77, 53-61, 63-67, 79-93, 95-104, 106-114, 116-120, 122-136, 138-147, 149-157, and 159-163 also define patentably for the same reasons.

CONCLUSION

For all of the above reasons, Applicant requests reconsideration of the rejections contained in the Office Action. Applicant submits that the claims all define patentably over the prior art, and that this application is now in condition for allowance.

Respectfully,

/John A. Galbreath/

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Certificate of Electronic Transmission: I certify that on the date below, this document and referenced attachments, if any, was submitted electronically to the U.S. Patent Office via its online filing system.

30 June 2010

/John A. Galbreath/

In the United States Patent and Trademark Office

Serial Number: 10/032,535

Appn. Filed: 01/02/2002

Applicant(s): John Shaw et al.

Appn. Title: Method and System for Facilitating Secure Transactions

Examiner/GAU: OYEBISI, Ojo / 3696

Declaration of Steven Levy

I, STEVEN LEVY, being over the age of eighteen and competent to testify, make the following declaration:

1. In 1991 I co-founded The Macgregor Group, a company specializing in order management systems (OMS) for the securities industry. I was President and CEO of the company until its recent sale. I have over 18 years experience in the securities trading business.
2. I hold a BS in Computer Science, a BS in Electrical Engineering and an MS in Computer Science from the Massachusetts Institute of Technology. My educational background in computer science and electrical engineering has given me knowledge and expertise in the field of securities trade automation – a field that almost exclusively involves computer-based automation and communication software and hardware. I am a Chartered Financial Analyst and a member of the Boston Securities Analyst Society, and this has given me knowledge of the software and hardware used by others in the securities business to accomplish trade automation, as well as a detailed and expert understanding of the requirements and constraints placed on these systems by traders, portfolio managers and other financial services providers.
3. Since 1992, Macgregor has developed and provided order management systems for the securities industry. I personally designed and implemented, or led the design and implementation of three order management systems, including the industry's first Windows-based order management system, Predator.

4. I am very familiar with the order management systems offered by Macgregor and its competitors in May 1999, when the Shaw et al. patent was first applied for.
5. I have reviewed the Shaw et al. patent application, as well as the SEC reference and LimiTrader system discussed therein.
6. There are two main reasons why integration of the LimiTrader system with an OMS would not be obvious in 1999. Broadly, these reasons are (1) due to the leakage of information in the LimiTrader system, users of the OMS would typically limit most of the information that would be sent to it, minimizing the benefits and reasons for integration, and (2) due to the unique nature of the user interface to LimiTrader, full integration into the front end of a commercial OMS would be extremely difficult, especially back in 1999.
7. Buy-Side traders typically and properly view the information contained in their OMS as key strategic proprietary data. The Orders in an OMS represent that action that the buy-side firm plans on taking. These orders are usually large and market moving. It is the buy-side trader's job to break these large orders into smaller pieces and place them with brokers one at a time, minimizing the impact of these orders on the market. These large orders can take multiple days to complete when broken up this way, while the amounts placed with brokers can be executed typically within a couple of hours.
8. Buy-side firms worry about information on their orders making its way into the marketplace. One of the big concerns is "front-running", where someone with knowledge about these orders (and therefore its impact on the market) buys or sells the same security before these orders are fully implemented. In this way, they "ride" the impact of those orders making a gain or loss at the buy-side firms expense. Buy-side firms think of this as information "leakage".
9. Because of their concern of information leakage, buy-side firms are very cautious about what systems they integrate their OMS with, and what type of integration is performed. The OMS contains all of the buy-side firm's orders. If the integration gives this order information to another system, the buy-side trader will want to understand how that other system will treat this information – to whom will the order information be given and under what conditions. If the buy-side trader has a reason to believe that order

information will be given or available to other market participants, especially the side-side (or brokers), they will severely limit what information is sent to that system. It would not be uncommon for the trader to insist that the systems NOT be integrated in these cases.

10. The LimiTrader system has exactly the characteristics that would concern a buy-side trader. Order information passed to it may be presented to one or more brokers without the buy-side trader's knowledge, allowing the broker to benefit from this information. The broker could use this information for front-running, providing information about market direction to one or more of the buy-side firms competitors, or many other things, all designed to take advantage of expected market movement in a particular security. This is one reason that integrating LimiTrader with a buy-side OMS would not be obvious.
11. Key portions of the LimiTrader system demand individual interaction with the central system – the sort of interaction that is readily available with individuals dialing into the central system via their PC, but not via an integrated OMS.
12. For example, the LimiTrader system offers individual users non-automated assistance, such as advice on a bid or offer, and market information (see the SEC reference, page 9 at n2; page 5 at n10). This can be easily done when individuals dial into the central system via their PCs, but not via an integrated OMS. Here is why:

When you choose to interpose an OMS between individual users and the central system, you lose the ability to dictate how initial data entry and storage will be done. Instead, you get only the information that is available in the OMS. You do not get to receive into your central system additional information like individualized non-automated assistance requests, unless the OMS is already configured to receive and pass such information to the central system.

13. The OMS's in existence as of May 1999 were simply not configured for the features described in the SEC reference – i.e., non-automated bid or offer advice and market information – nor were they capable of handling such features without prior modification to the OMS. Examples of these OMS's, which existed in May 1999 and which were not configured to offer non-automated bid or offer advice and market information, include the Landmark system from The LongView Group, the Predator system from Macgregor, and the Charles River IMS system from Charles River Development

14. Thus, users could not have obtained these features via an OMS in existence in May 1999 and integrated with a central matching system. The features would have been cut off unless the OMS had itself been modified before integrating it with the central system – and this would not have been obvious, because these OMS's are separately-owned and not freely modifiable. In other words, to retain LimiTrader's individualized features, one would have had to first modify the OMS, then also modify the LimiTrader system by grafting the OMS onto it. This kind of double, sequential modification would simply not have been obvious at the time of the Shaw et al. patent application.
15. Moreover, trying to make an OMS function via LimiTrader's existing dial-up system, over standard phone lines, would not be satisfactory. Standard phone lines simply do not have the capacity to handle the communication volume associated with a commercial trading environment, nor would such a configuration have the necessary communication speed. For these reasons, trying to use LimiTrader's existing dial-up system to handle order inputs from an OMS would render the LimiTrader system sub-optimal and slow.
16. Further, a configuration in which orders were received from individuals into the central system via an OMS, with a dial-up system "on the side" wherein the individuals placing orders via the OMS would dial into the central system to receive non-automated assistance would not be workable or economically viable, because a configuration like that would entail unnecessary duplication of the contact interface between order placers and the central system (i.e., place orders using one interface, but do everything else using another, completely separate interface). Such duplicate interfaces would require constant communication and reconciliation to ensure that information received from, and provided to, an order-placer via one contact interface matched information received from, and provided to, an order-placer via the other contact interface. Multiple interfaces are more expensive to operate and carry the risk of mismatched, inconsistent data.

The undersigned being hereby warned that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that such willful false statements and the like may jeopardize the validity of this document, declares that all statements made of his own knowledge are true and that all statements made on information and belief are believed to be true.

8. JUNE 2010

Date


Steven Levy

In the United States Patent and Trademark Office

Serial Number: 10/032,535

Appn. Filed: 01/02/2002

Applicant(s): John Shaw et al.

Appn. Title: Method and System for Facilitating Secure Transactions

Examiner/GAU: OYEBISI, Ojo / 3696

Declaration of Rolando Rabines

I, ROLANDO RABINES, being over the age of eighteen and competent to testify, make the following declaration:

1. I hold a bachelor's degree in computer science and engineering (BSCS) and also a bachelor's degree in electrical engineering (BSEE), both from the Massachusetts Institute of Technology (MIT). My educational background in computer science and electrical engineering has given me knowledge and expertise in the field of securities trade automation – a field that almost exclusively involves computer-based automation and communication software and hardware. I am a Chartered Financial Analyst and a member of the Boston Securities Analyst Society (www.cfainstitute.com), and this has given me knowledge of the software and hardware used by others in the securities business to accomplish trade automation, as well as a detailed and expert understanding of the requirements and constraints placed on these systems by traders, portfolio managers and other financial services providers.
2. In 1991 I co-founded The Macgregor Group, a company specializing in order management systems (OMS) for the securities industry. From 1991 to 2006, I was in senior leadership roles at the company, including Chief Technology Officer, Senior Vice-President of Sales and Marketing, and Chief Operating Officer. I have over 20 years experience in the securities trading business, and hold patents relating to online analytic systems and distributed application components. I have substantial expertise in financial technology and the firms that use such technology.

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3. Since 1992, Macgregor has developed and provided order management systems for the securities industry. During my 15-year tenure there, I was intimately familiar with the order management systems developed by the company and its competitors. I was also intimately familiar with the state of knowledge in the order management system and financial trading system arts. I developed a variety of order management system applications using distributed system and networked architectures. I also developed a wide array of financial asset management applications including financial trading, financial portfolio modeling, data warehousing, client reporting, performance attribution, and backtesting.
4. Prior to founding Macgregor in 1991, I was a Systems Architect at Bolt Beranek and Newman (BBN), the company that developed the ARPANET, the forerunner of today's Internet. At BBN, I worked in their Internet Gateway group, and on large scale networked simulation systems technologies (SIMNET). I also held technical staff positions at the Motorola Portable Communication Products Division and the MIT Laboratory for Computer Science.
5. I am very familiar with the order management systems (OMS) available in May 1999, when the Shaw et al. patent was first applied for.
6. I have thoroughly analyzed the Shaw et al. patent application, as well as the SEC reference and LimiTrader system discussed therein.
7. Integrating LimitTrader with an OMS in 1999 would not have been obvious, because the LimiTrader system was not designed to be integrated with other systems. Indeed, such an integration would have been impossible without a substantial redesign/rewrite of LimitTrader.
8. OMS users demand a single and responsive interface that supports the full trading process, including communications among internal parties such as portfolio managers, traders and compliance officers, and external parties such as brokers, execution systems, settlements systems, and market data providers. Providing such an interface to LimiTrader would not have been possible without a substantial redesign and rewrite of the LimiTrader system – making integration with an OMS not only impractical, but unthinkable.

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9. To satisfy the demands of OMS users, OMS providers invest substantial resources to support and integrate all the trading functions and systems required to fully automate and speed up the life cycle of a trade. Integration of these real-time workflow systems is a very complex undertaking. For integration to be successful, it must be achieved at multiple levels: starting with the database and data models that provide a common platform for robust semantic interchange across systems, continuing at the messaging and service levels that allow systems to cooperate and synchronize their functionality and complete a business transaction or sub-process, and ending with a single user interface to eliminate the need and risks of duplicate data entry, and the confusion associated with distinct interface standards. OMS providers have had to develop most of this functionality from scratch, in order to ensure that all elements at each of these levels are tightly and correctly integrated in real-time.
10. Systems designed in the early 1990s, such as LimiTrader, did not anticipate a future in which computer technology would allow for independently developed systems to share resources and cooperate in real-time. Closed system design was the prevailing model for trading system architecture throughout the early 1990s. Systems were envisioned to be stand-alone entities, and only interface with external systems through batch-oriented file based import/export utilities. LimiTrader is a shining example of such closed system design.
11. If someone had asked our company in 1999 to integrate an OMS with the LimiTrader system, we would have replied that such an integration was not feasible, much less obvious, because LimiTrader was a closed system and was not designed to be integrated with external systems. And this situation was not uncommon – often, customers would request that an OMS be integrated with a proprietary or 3rd party legacy trading system, and we would have to reply that integration was not possible because the trading system was designed as a closed system (as LimiTrader was).
12. The LimiTrader design, the norm at the time, was simply not designed to be integrated with an OMS. It lacks all the critical elements required for it to be integrated with an OMS, or any other real-time trading workflow system. It does not have an ‘open’ architecture, for example one built around a SQL Relational database that would allow other systems to access and modify business data in a transactionally robust manner. It also does not have a “real-time” system architecture, which can support event-driven message based integration across systems. It does not have the ability to publish events or provide a transactionally-safe, service-oriented application program interface (API), both of which are important technical requirements for a trading system which will be integrated with an OMS. Further, the LimiTrader system does not include support for critical business functions such as block trading, 24 hour trading or international trading.

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Without this support, integrating LimiTrader with an OMS would have been impossible, because an OMS does provide these critical business functions.

13. Moreover, the dial-up system used by LimiTrader to communicate with parties would be inadequate to support the equity trading decisions and workflows from the OMS. And the lack of a real-time API would require a user to go to the LimiTrader terminal just to cancel an order, adding unacceptable delays.
14. Further, LimiTrader's non-secure matching approach is not suited for the OMS market. One of the main benefits of an OMS is that it allows users to retain control of their orders until the last possible moment. Equity traders, the majority of OMS users, are extremely wary of letting any outside parties learn the contents of their order book. They know that any information about their intention to buy or sell shares in the near future can be exploited by 3rd parties to take advantage of them. They use the OMS as a platform for quickly directing and redirecting their orders across any and all liquidity sources. It is unthinkable that OMS traders would direct any order flow into a matching system such as LimiTrader that notifies multiple parties of possible matches. OMS traders would require that they be immediately and simultaneously notified of any match, and that only one match be proposed at a time. LimiTrader was not designed to support this requirement. Actually, LimiTrader seems to have been designed for a market where information leakage is not a great concern, and where participants expect and accept that market information will propagate in several minutes rather than in a couple of seconds.
15. There are also a number of other LimiTrader features that clearly point to a system not compatible with OMS integration. For instance, an initial capacity for 50 simultaneous users is at least a couple of orders of magnitude lower than what is required to support actual usage with an integrated OMS. Similarly, LimiTrader's 30-minute backup recovery capability would be unacceptable to the OMS market. Most organizations would demand a hot backup to guarantee uninterrupted access. It would be unthinkable for an equity trader to have orders in the LimiTrader system in an uncertain state for up to 30 minutes, because the trader would always be wondering: Did I miss a match? Was the order executed? What is my current cash position? It is critical to have such information immediately available at all times – and with LimiTrader, it would not be.
18. In sum, integrating a system like LimiTrader to an OMS would have been far from obvious in 1999. Indeed, upon consideration of the LimiTrader limitations and the critical requirements for OMS real-time trading workflow integration which LimiTrader does not meet, such a project would have been unthinkable.

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The undersigned being hereby warned that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that such willful false statements and the like may jeopardize the validity of this document, declares that all statements made of his own knowledge are true and that all statements made on information and belief are believed to be true.



Rolando Rabines

7/12/2010
Date

In the United States Patent and Trademark Office

Serial Number: 10/032,535

Appn. Filed: 01/02/2002

Inventor(s): John Shaw et al.

Appn. Title: Method and System for Facilitating Secure Transactions

Examiner/GAU: Oyeibisi, Ojo / 3695

Declaration of Chris Hynes

I, Chris Hynes, being over the age of eighteen and competent to testify, make the following declaration:

1. I hold a Bachelor of Science degree in Finance from the University of Southern California, and a Master of Business Administration degree in Finance from the Columbia University Graduate School of Business. My educational background in finance has given me knowledge and expertise necessary in the field of securities trade automation – a field that almost exclusively involves computer-based automation and communication software and hardware. I am the original Director of the National Options Society, a member of the Chicago Board Options Exchange (CBOE) New Products Advisory Committee, and a member of the NYSE Institutional Traders Advisory Committee. I am the co-author of two Wall Street Journal Op-Ed articles, concerning flash trading and transaction taxes.
2. I have over 35 years experience in the securities trading business, and have substantial expertise in financial instrument trading technology and the firms that use such technology. From 1974 to 1980, I held positions at various broker/dealers and money managers, focusing primarily on options sales and trading, portfolio management, and fundamental research. I also developed stock and option research products, and taught options classes to New York Stock Exchange (NYSE) specialists.
3. From 1980 to 1982, I was with Morgan Stanley, the well-known financial services firm, and started their institutional derivatives business. From 1982 to 1983, I was a partner at F.Martin Koenig & Co., a money management firm which specialized in tax-efficient derivative investment management. I co-managed a very successful hedge fund there, and co-developed a derivatives-based mutual fund.

4. From 1983 to 1988, I was Senior Vice-President and National Options Manager at Jefferies & Co., the well-known global securities firm. At Jefferies, I co-founded their Investment Technology Group subsidiary, and co-developed their well-known electronic trading system, POSIT, which still has a virtual monopoly niche and has since been spun off into a separate company. I was also responsible for Jefferies's option arbitrage operation.

5. From 1988 to 2001, I held positions of increasing responsibility at State Street Global Advisors (SSgA), the well-known financial services firm, culminating in the Office of the President. From 1988 – 1991, I was Portfolio Manager, International Structured Products, and managed the largest international commingled fund of \$6 billion. I handled major client relationships, designed new management software, and co-developed Standard & Poor's Depository Receipts (SPDR) products. From 1991 to 1995, I was head of Equity and Derivative Trading at SSgA, and established a trading desk for equities and derivatives. I was a member of SSgA's Financial Information Exchange (FIX) protocol committee, and promoted FIX protocol adoption by trader groups. I also implemented new trading software systems, and developed the first academic study of international transaction costs with Harvard professors.

6. In 1992, I founded the State Street Brokerage Services Inc. division of SSgA, and served as its President and then Chairman until 1997. I built this firm from a start-up operation and developed franchise businesses and a restructuring/ liquidation business (\$150 billion in volume by 2000). I also led the acquisition of Lattice, an electronic trading business. From 1995 to 2000, I was Executive Vice President of SSgA's Private Asset Management division, responsible for all aspects of the Private Asset Management business, including investments, financial systems, and fiduciary services. I planned and implemented the organization's largest financial systems project (Global Plus Conversion), developed and acquired additional investment product and distribution channels/markets, and served as Chairman or President of 3 National Bank subsidiaries.

7. In 2001, I was a member of the Office of the President at SSgA, with responsibility for Global Strategic Marketing. I recommended and implemented projects for consolidating distribution of Exchange-Traded-Fund and mutual fund businesses, and evaluated potential financial acquisitions.

8. In 1989, I founded Hynes Capital, and am currently principal of that firm, which consults and also makes angel investments in the areas of electronic trading and portfolio management technology. In order to consult in this area and make investments, I must be thoroughly familiar with electronic trading technology – past and present. I am also a Partner and Senior Advisor at Hastings Equity Partners LLC, a new private equity firm.

9. All the above experience has given me extensive knowledge of the methods, processes, software and hardware used by others in the securities business to accomplish trade automation, as well as a detailed and expert understanding of the requirements and constraints placed on these systems by traders, portfolio managers and other financial services providers. Indeed, I have been associated with trading and trading technology since I started in the securities business in 1986, including explicit familiarity with the various innovations in crossing and matching trading systems.

10. I have reviewed the Shaw et al. patent application ("Shaw"), as well as the SEC reference and LimiTrader system discussed therein.

11. A key difference between Shaw and the LimiTrader system is that LimiTrader does not send a match notification message to each contraparty. Instead, LimiTrader sends a message only to parties with an existing order that is contra to a just-submitted order. Please see the SEC reference, page 3 at *8: "LimiTrader will dial-up the participant that entered the existing orders."

12. Indeed, LimiTrader dials two existing-order parties that are each contra to the party with the just-submitted order. Whoever responds first by contacting the party with the just-submitted order can begin a negotiation. Please see the SEC reference, page 3 at *8: "The first participant so notified that responds to the incoming order may begin an automated negotiation process."

13. After notifying existing-order parties only, the LimiTrader system has nothing further to do with the parties unless a trade results. Please see the SEC reference, page 3 at *8: "The Company is not involved in such negotiation and is not aware that a negotiation is occurring or has occurred unless a trade results."

14. Modifying the LimiTrader system to switch from notifying existing-order parties only to notifying both counterparties simultaneously would not have been obvious as of Shaw's May 1999 priority date, because it would entail significantly changing the stated purpose and very core of the LimiTrader system. The way users are informed of a potential match, as well as the way users interact with the system and with each other, are fundamental operating principles of any matching system. Changing these aspects would thus alter LimiTrader's central purpose and basic operating principles.

15. Moreover, such a modification would have been expensive, technically complex, and logistically difficult. It would have required assembling a team of highly specialized technology and trading experts to build the functionality necessary for such a modification.

16. In addition, such a change would not have been obvious because certain advantages of LimiTrader's method and protocol for match notification would be lost. Specifically, contacting only multiple existing-order parties, as LimiTrader does, has a success probability, efficiency and speed advantage versus contacting the matching counterparties coincidentally, as Shaw does. If the matching counterparties are contacted coincidentally, there is a chance that one side or the other won't be interested, and then the system must start all over again. If multiple existing-order parties are contacted first, as in LimiTrader, there is a better chance that at least one of the existing-order parties will be interested. Then when the existing-order party contacts the incoming-order party, the chances that a trade will occur are higher because the existing-order party is already guaranteed to be interested – otherwise it would not have contacted the incoming-order party.

17. Success probability, efficiency and speed are very important in trading system operations, and clearly it is important to LimiTrader. Indeed, the combined advantages of success probability, efficiency and speed is a key reason that LimiTrader calls two existing-order parties at a time – to speed up the trading process and increase the odds that at least one of the existing-order parties will be interested.

The undersigned being hereby warned that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that such willful false statements and the like may jeopardize the validity of this document, declares that all statements made of his own knowledge are true and that all statements made on information and belief are believed to be true.

7/30/2010
Date


Chris Hynes

In the United States Patent and Trademark Office

Serial Number: 10/032,535

Appn. Filed: 01/02/2002

Inventor(s): John Shaw et al.

Appn. Title: Method and System for Facilitating Secure Transactions

Examiner/GAU: Oyeibisi, Ojo / 3695

Declaration of Stephen I. Bookbinder

I, STEPHEN I. BOOKBINDER, being over the age of eighteen and competent to testify, make the following declaration:

1. I hold a Bachelor's degree and a Master of Business Administration degree, both from Baruch College. I am a past director of the Security Traders Association (STA); a past board member of the Security Traders Association of Connecticut; a founding board member of the Global Equity Markets Association; and an advisor to the International TraderForum. I am also a guest lecturer and advisor at Baruch College. I hold the following National Association of Securities Dealers (NASD) licenses: Series 3 (futures contracts & options); Series 7 (broker-dealer registered representative); Series 24 (trading market supervision); Series 63 (state registration law & procedure); and Series 64 (registered investment advisor).

2. I have 30 years experience in the financial securities trading business, and have substantial expertise in financial instrument trading technology and the firms that use such technology. From 1980 to 1989, I was a trader with Bear Stearns and Co. and Chemical Bank Securities, and from 1989-2004 I held positions of increasing responsibility at Bloomberg L.P., the well-known financial information and services firm, specifically with their Bloomberg Financial Markets LLC and Bloomberg Tradebook LLC divisions. I co-founded and was the principal of Bloomberg Tradebook, and built an international sales organization of 150 sales people, 900 institutions, and 250 broker-dealers in 15 countries. I launched an industry wide advisory group that helped drive development of the Tradebook system, and participated in negotiations and maintained strategic alliances with The Bank of New York, G-Trade Services, B-Trade Services, various order management system (OMS) firms and Multi-Trade Securities firms.

3. From 2004 to 2006, I was Senior Managing Director and Global Head of Sales for eSpeed Inc., a leading developer and implementer of electronic marketplaces and electronic trading technology. I directed global sales efforts for all of eSpeed's product offerings, which included equities, fixed income securities, futures, and foreign exchange. In doing so, I maintained direct and personal contact with clients regarding the use of financial securities trading technology, including hedge funds, broker-dealers, algorithmic trading firms, day trading firms, and institutions.

4. From 2006 to 2007, I was head of Strategic Client Development at BT Global Financial Services (BT GFS), a dedicated group within British Telecom creating products for the global financial services sector. I was responsible for global account strategies within the top 40 global financial services companies, and as such have a keen understanding of what is important to those companies regarding trading systems. I developed ultra low latency equity trading products for a variety of global firms, and also developed a strategic alliance with LiquidityHub, a fixed income broker-dealer consortium.

5. From 2007 to 2008, I was head of Sales, North America for Marco Polo Securities, Inc., a global agency broker-dealer specializing in equity trading execution in the emerging markets. I was part of the team that launched the broker-dealer operation. As such, I was very familiar with the operational infrastructure and systems, costs, and regulatory issues associated with equity trading. Prior to that position, I was a consultant to Marco Polo's CEO and COO.

6. From 2008 to 2009, I was head of Sales - Strategic European Expansion for Electronic Brokerage Systems LLC, a wholly owned subsidiary of Belzberg Technologies, Inc. Belzberg Technologies is a leading global provider of electronic brokerage and trading systems. I developed and implemented a business plan expanding Belzberg's Electronic Brokerage Systems product to include European equities and options.

7. From 2009 to the present, I have been a consultant and Managing Director - Investment Banking for Chatsworth Securities, LLC. I am President of Chatsworth's new equity block trading network, with responsibility for product development of this new trading network. I also created a hedge fund distribution business that focuses on the Quantitative Investment Strategies built by Siemens AG, and which is used by some of the world's top hedge funds.

8. All the above experience has given me extensive knowledge of the methods, processes, software and hardware used by others in the securities business to accomplish trade automation, as well as a detailed and expert understanding of the requirements and constraints placed on these systems by traders, portfolio managers and other financial services providers. Indeed, I have been associated with trading and trading technology since I started in the securities business, including explicit familiarity with the various innovations in crossing and matching trading systems.

9. I have reviewed the Shaw et al. patent application ("Shaw"), as well as the SEC reference and LimiTrader system discussed therein.

10. A key difference between Shaw and the LimiTrader system is that LimiTrader does not send a match notification message to each contraparty. Instead, LimiTrader sends a message only to parties with an existing order that is contra to a just-submitted order. Please see the SEC reference, page 3 at *8: "LimiTrader will dial-up the participant that entered the existing orders."

11. Indeed, LimiTrader dials two existing-order parties that are each contra to the party with the just-submitted order. Whoever responds first by contacting the party with the just-submitted order can begin a negotiation. Please see the SEC reference, page 3 at *8: "The first participant so notified that responds to the incoming order may begin an automated negotiation process."

12. After notifying existing-order parties only, the LimiTrader system has nothing further to do with the parties unless a trade results. Please see the SEC reference, page 3 at *8: "The Company is not involved in such negotiation and is not aware that a negotiation is occurring or has occurred unless a trade results."

13. Modifying the LimiTrader system to switch from notifying existing-order parties only to notifying both contraparties simultaneously would not have been obvious as of Shaw's May 1999 priority date, because it would entail significantly changing the stated purpose and very core of the LimiTrader system. The way users are informed of a potential match, as well as the way users interact with the system and with each other, are fundamental operating principles of any matching system. Changing these aspects would thus alter LimiTrader's central purpose and basic operating principles.


14. Moreover, such a modification would have been expensive, technically complex, and logistically difficult. It would have required assembling a team of highly specialized technology and trading experts to build the functionality necessary for such a modification.

15. In addition, such a change would not have been obvious because certain advantages of LimiTrader's method and protocol for match notification would be lost. Specifically, contacting only multiple existing-order parties, as LimiTrader does, has a success probability, efficiency and speed advantage versus contacting the matching contraparties coincidentally, as Shaw does. If the matching contraparties are contacted coincidentally, there is a chance that one side or the other won't be interested, and then the system must start all over again. If multiple existing-order parties are contacted first, as in LimiTrader, there is a better chance that at least one of the existing-order parties will be interested. Then when the existing-order party contacts the incoming-order party, the chances that a trade will occur are higher because the existing-order party is already guaranteed to be interested – otherwise it would not have contacted the incoming-order party.

16. Success probability, efficiency and speed are very important in trading system operations, and clearly it is important to LimiTrader. Indeed, the combined advantages of success probability, efficiency and speed is a key reason that LimiTrader calls two existing-order parties at a time – to speed up the trading process and increase the odds that at least one of the existing-order parties will be interested.

The undersigned being hereby warned that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that such willful false statements and the like may jeopardize the validity of this document, declares that all statements made of his own knowledge are true and that all statements made on information and belief are believed to be true.

7/30/10
Date


Stephen I. Bookbinder

In the United States Patent and Trademark Office

Serial Number: 10/032,535

Appn. Filed: 01/02/2002

Inventor(s): John Shaw et al.

Appn. Title: Method and System for Facilitating Secure Transactions

Examiner/GAU: Oycbisi, Ojo / 3695

Declaration of Davis Gaynes

I, DAVIS GAYNES, being over the age of eighteen and competent to testify, make the following declaration:

1. I have over 25 years experience in the securities trading business, and have substantial expertise in financial instrument trading technology and the firms that use such technology. From 1984 to 2001, I held positions of increasing responsibility at Instinet Corporation, the company that pioneered electronic trading systems and which was acquired by Reuters in 1987. From 1984-1989, I was an institutional securities salesman, responsible for selling Instinet brokerage services to the U.S. fund management community. From 1990-1991, I was Vice President-Sales, and built and managed Instinet's institutional sales force, and started Instinet's "soft dollar" trading business. From 1992-1993, I was Senior Vice President and co-head of sales and trading. I was responsible for Instinet's U.S. revenues, and ran the trading desk and the sales operations. I also integrated Instinet's acquisition BOMAR Corp., a high-end research and analytics workstation business, and started Instinet's Canadian subsidiary.
2. From 1994-1999, I was Executive Vice President-Sales and Marketing at Instinet, and was responsible for Instinet's sales and marketing functions along with the research and soft dollar trading businesses. During those years, I also headed U.S. equities marketing and sales for Reuters Holdings, the well-known information and financial services company which had acquired Instinet in 1987; co-headed Reuter's U.S. business; served as Executive Vice President, Reuters America; was a member of the Reuters America Holdings board of directors, and was Chairman of the Reuters subsidiary Reality. From 1994-2000, I was a member of Instinet's management committee and board of directors.

EXHIBIT 5, p. 2

3. From 1999-2000, I was head of Instinet's entire North and South American business, and from 2000-2001, I was Chief Executive of Instinet Research, a wholly-owned division of Instinet dedicated to providing US and global fund managers with proprietary and third party research.

4. In 2001, I founded and am currently President of Jenger Group, a consulting firm focused on the financial services industry. Jenger services both brokerage firms and financial information vendors, and specializes in helping financial services firms increase revenues through optimizing sales and marketing strategies. I am a frequent speaker at financial industry and technology conferences, on topics ranging from general and sales management issues to strategies for trading and measuring trading costs of equity securities.

5. All the above experience has given me extensive knowledge of the software and hardware used by others in the securities business to accomplish trade automation, as well as a detailed and expert understanding of the requirements and constraints placed on these systems by traders, portfolio managers and other financial services providers. Indeed, I have been associated with trading and trading technology since I started in the securities business, including explicit familiarity with the various innovations in crossing and matching trading systems.

6. I have reviewed the Shaw et al. patent application ("Shaw"), as well as the SEC reference and LimiTrader system discussed therein.

7. A key difference between Shaw and the LimiTrader system is that LimiTrader does not send a match notification message to each contraparty. Instead, LimiTrader sends a message only to parties with an existing order that is contra to a just-submitted order. Please see the SEC reference, page 3 at *8: "LimiTrader will dial-up the participant that entered the existing orders."

8. Indeed, LimiTrader dials two existing-order parties that are each contra to the party with the just-submitted order. Whoever responds first by contacting the party with the just-submitted order can begin a negotiation. Please see the SEC reference, page 3 at *8: "The first participant so notified that responds to the incoming order may begin an automated negotiation process."

EXHIBIT 5, p. 3

9. After notifying existing-order parties only, the LimiTrader system has nothing further to do with the parties unless a trade results. Please see the SEC reference, page 3 at *8: "The Company is not involved in such negotiation and is not aware that a negotiation is occurring or has occurred unless a trade results."

10. Modifying the LimiTrader system to switch from notifying existing-order parties only to notifying both counterparties simultaneously would not have been obvious as of Shaw's May 1999 priority date, because it would entail significantly changing the stated purpose and very core of the LimiTrader system. The way users are informed of a potential match, as well as the way users interact with the system and with each other, are fundamental operating principles of any matching system. Changing these aspects would thus alter LimiTrader's central purpose and basic operating principles.

11. Moreover, such a modification would have been expensive, technically complex, and logistically difficult. It would have required assembling a team of highly specialized technology and trading experts to build the functionality necessary for such a modification.

12. In addition, such a change would not have been obvious because certain advantages of LimiTrader's method and protocol for match notification would be lost. Specifically, contacting only multiple existing-order parties, as LimiTrader does, has a success probability, efficiency and speed advantage versus contacting the matching counterparties coincidentally, as Shaw does. If the matching counterparties are contacted coincidentally, there is a chance that one side or the other won't be interested, and then the system must start all over again. If multiple existing-order parties are contacted first, as in LimiTrader, there is a better chance that at least one of the existing-order parties will be interested. Then when the existing-order party contacts the incoming-order party, the chances that a trade will occur are higher because the existing-order party is already guaranteed to be interested — otherwise it would not have contacted the incoming-order party.

13. Success probability, efficiency and speed are very important in trading system operations, and clearly it is important to LimiTrader. Indeed, the combined advantages of success probability, efficiency and speed is a key reason that LimiTrader calls two existing-order parties at a time — to speed up the trading process and increase the odds that at least one of the existing-order parties will be interested.

EXHIBIT 5, p. 4

The undersigned being hereby warned that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that such willful false statements and the like may jeopardize the validity of this document, declares that all statements made of his own knowledge are true and that all statements made on information and belief are believed to be true.

7/30/10
Date


Davis Gaynes

In the United States Patent and Trademark Office

Serial Number: 10/032,535

Appn. Filed: 01/02/2002

Inventor(s): John Shaw et al.

Appn. Title: Method and System for Facilitating Secure Transactions

Examiner/GAU: Oyeibisi, Ojo / 3695

Declaration of Richard A. Holway

I, RICHARD A. HOLWAY, being over the age of eighteen and competent to testify, make the following declaration:

1. I hold a Bachelor's degree and a Master of Science degree, from Middlebury College and Saint Michael's College. I have served as an appointee to the Institutional Trader's Advisory Committee to the New York Stock Exchange (NYSE) Board; the Institutional Committee of the Security Trader's Association; and the Advisory Board of the Institutional Investor Trader Forum. I was an early member of the National Organization of Investment Professionals; as well as a frequent moderator/panelist for various trading technology forums and symposiums. I hold the following National Association of Securities Dealers (NASD) licenses: Series 4 (registered options principal); 7 (broker-dealer registered representative); 24 (trading market supervision); 55 (registered equity trader); and 63 (state registration law & procedure).

2. I have over 20 years experience in the securities trading business, and have substantial expertise in financial instrument trading technology and the firms that use such technology. From 1986 to 1988, I was a program trader with Bankers Trust's brokerage operations, where I directed the development and implementation of the first computerized program trading system for index arbitrage, going port-to-port to the NYSE. From 1988 to 1990, I was an institutional sales trader for IBJ/Schroeder-Execution Services.

3. From 1990 to 1998, I was a Sr. Vice-President and Director of Trading at Investment Advisors Inc., where I managed 5 critical departments, including Trading, Operations, and Compliance. I managed interdisciplinary information technology (IT) teams to implement multiple infrastructure projects automating and interconnecting the front, mid and back office. I also designed and led IT teams on a full cycle, straight-through-processing (STP) trading, operations, and risk management project that produced a new model used as a national template

for the move to T+3 (settlement of trades by trade date plus 3 days). At Investment Advisors, I chaired the Technology Committee, and was on the Investment Committee and Management Committee.

4. From 1998 to 2003, I was an Executive Vice-President at Jefferies & Co., the well-known global securities firm. At Jefferies, I led design and IT teams in all aspects of development of an innovative new block trading system. I managed the entire project and directed efforts across multiple technology units. I designed the user interface, trade matching logic, and other aspects of the new trading system.

5. In 2003, I founded Advanced Portfolio & Trading Services, and am currently the principal of the firm. We design & implement portfolio & algorithmic direct-market-access (DMA) trading systems and services, and consult with trading technology suppliers and the buy/sell-side firms that use such trading technology. As the principal of the firm, I am directly and intimately involved in the firm's activities in assisting clients implement and utilize advanced trading technology systems and techniques for their use. A sample of our client engagements include:

Deep Liquidity, Inc., where I was Senior Advisor to the CEO concerning a new alternative trading system (ATS) design; NYFIX, Inc., where I was the advisor to the Strategic Director concerning the architecture of a new trade execution management system (EMS); Firefly Capital, Inc., where I designed a customized algorithmic DMA venue aggregated EMS with full analytics; Adams Harkness, where I was the Trading/Technology Advisor and developed and implemented portfolio/algorithmic DMA capabilities for their institutional desk; and Pulse Trading, where I was the Trading/Technology Advisor and developed and implemented portfolio/algorithmic DMA capabilities for their institutional desk as well.

6. All the above experience has given me extensive knowledge of the methods, processes, software and hardware used by others in the securities business to accomplish trade automation, as well as a detailed and expert understanding of the requirements and constraints placed on these systems by traders, portfolio managers and other financial services providers. Indeed, I have been associated with trading and trading technology since I started in the securities business in 1986, including explicit familiarity with the various innovations in crossing and matching trading systems.

7. I have reviewed the Shaw et al. patent application ("Shaw"), as well as the SEC reference and LimiTrader system discussed therein.

8. A key difference between Shaw and the LimiTrader system is that LimiTrader does not send a match notification message to each contraparty. Instead, LimiTrader sends a message only to parties with an existing order that is contra to a just-submitted order. Please see the SEC reference, page 3 at *8: “LimiTrader will dial-up the participant that entered the existing orders.”

9. Indeed, LimiTrader dials two existing-order parties that are each contra to the party with the just-submitted order. Whoever responds first by contacting the party with the just-submitted order can begin a negotiation. Please see the SEC reference, page 3 at *8: “The first participant so notified that responds to the incoming order may begin an automated negotiation process.”

10. After notifying existing-order parties only, the LimiTrader system has nothing further to do with the parties unless a trade results. Please see the SEC reference, page 3 at *8: “The Company is not involved in such negotiation and is not aware that a negotiation is occurring or has occurred unless a trade results.”

11. Modifying the LimiTrader system to switch from notifying existing-order parties only to notifying both contraparties simultaneously would not have been obvious as of Shaw’s May 1999 priority date, because it would entail significantly changing the stated purpose and very core of the LimiTrader system. The way users are informed of a potential match, as well as the way users interact with the system and with each other, are fundamental operating principles of any matching system. Changing these aspects would thus alter LimiTrader’s central purpose and basic operating principles.

12. Moreover, such a modification would have been expensive, technically complex, and logistically difficult. It would have required assembling a team of highly specialized technology and trading experts to build the functionality necessary for such a modification.

13. In addition, such a change would not have been obvious because certain advantages of LimiTrader’s method and protocol for match notification would be lost. Specifically, contacting only multiple existing-order parties, as LimiTrader does, has a success probability, efficiency and speed advantage versus contacting the matching contraparties coincidentally, as Shaw does. If the matching contraparties are contacted coincidentally, there is a chance that one side or the

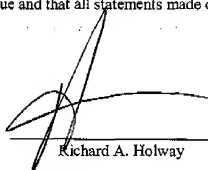
other won't be interested, and then the system must start all over again. If multiple existing-order parties are contacted first, as in LimiTrader, there is a better chance that at least one of the existing-order parties will be interested. Then when the existing-order party contacts the incoming-order party, the chances that a trade will occur are higher because the existing-order party is already guaranteed to be interested – otherwise it would not have contacted the incoming-order party.

14. Success probability, efficiency and speed are very important in trading system operations, and clearly it is important to LimiTrader. Indeed, the combined advantages of success probability, efficiency and speed is a key reason that LimiTrader calls two existing-order parties at a time – to speed up the trading process and increase the odds that at least one of the existing-order parties will be interested.

The undersigned being hereby warned that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that such willful false statements and the like may jeopardize the validity of this document, declares that all statements made of his own knowledge are true and that all statements made on information and belief are believed to be true.

7/30/2010

Date


Richard A. Holway

In the United States Patent and Trademark Office

Serial Number: 10/032,535

Appn. Filed: 01/02/2002

Inventor(s): John Shaw et al.

Appn. Title: Method and System for Facilitating Secure Transactions

Examiner/GAU: Oyeibisi, Ojo / 3695

Declaration of Gregory McFarland

I, Gregory McFarland, being over the age of eighteen and competent to testify, make the following declaration:

1. I hold a Bachelor of Science degree in Computer Science (high honors, Phi Beta Kappa) and a Master of Science degree in Computer Science, both from the State University of New York. My educational background in computer science has given me the background knowledge and expertise necessary in the field of securities trade automation – a field that almost exclusively involves computer-based automation and communication software and hardware. I hold the following National Association of Securities Dealers (NASD) licenses: Series 7 (broker-dealer registered representative); Series 65 (investment advisor representative), as well as a Series 2-15 license from the state of Florida.

2. I have over 10 years experience in the financial securities trading business, and have substantial expertise in financial instrument trading technology and the firms that use such technology. From 1990 to 1999, I held positions of increasing responsibility at Modus Operandi, Inc., culminating in Director, IT Solutions. I was responsible for defining the bridge from business consulting practice to IT solutions development capabilities. Worked with Fortune 500 companies, in the areas of requirements definition, modeling of enterprise wide strategic plans, tool and methodology selection for enterprise process modeling initiatives.

3. In 2000, I founded HighPointTrade, a financial trading systems technology firm. As the founder and principal of the firm, I am intimately involved in the firm's activities, and was the architect and designer of HighPointTrade's entire product suite. As a provider of institutional trading systems software, our customers were sell-side brokers that, in turn, offered private labeled versions of our trading system to their buy-side clients. We are responsible for all

aspects of this relationship from inception through daily operations. Clients included New York, Massachusetts, and California sell-side broker dealers, that used our trading system to service state pension funds, mutual funds, hedge funds, and private money managers.

4. I have designed, architected and integrated numerous Financial Information Exchange (FIX) based trading destinations including: Island, INET, NASDAQ (prior INET acquisition), NASDAQ (post INET acquisition), ARCA, ARCX (post being acquired by NYSE), Instinet, Lava, CITI (both equities and options), Reuters (for connections direct to broker desks), NYFIX, Pipeline, Posit, BRUT, and BTRD. I managed the relationship with trading destinations on behalf of sell-side brokers, including coordinating with networking staff of sell-side and trading destination to establish network connectivity, either via dedicated line or Internet.

5. I evaluated the trading destination's FIX specifications, and identified set of order types and order parameters that were to be supported on our trading platform. I performed FIX certification with trading destinations, and managed the day-to-day operation of the FIX connection. I acted as the technical interface with sell side's clearing firms, including ABN-AMRO / Broadcort / Merrill Lynch, PAX, Jefferies, Penson, and CCLS.

6. I designed, architected and integrated FIX connections to sell-side broker's clearing firms, typically for access to NYSE SuperDOT, NYSE DirectPlus, and AMEX. For institutional trading, I managed the end-of-day processing to communicate street side executions and aggregated customer side executions (i.e. delivery to a buy-side's custodian). For retail trading, this included start-of-day upload of positions, equity, buying power, etc. Development of critical areas of the core product included client-side FIX connections, server-side FIX connections, business objects, database integration, messaging, OATS reporting, clearing, end-of-day reporting, and system administration.

7. I was responsible for day-to-day trading system operation including server configuration, account and user setup, start of day and end of day activities, and system monitoring. I supported the sell-side client in their interactions with the ultimate users of the trading system, a buy-side client (mutual fund, hedge fund, pension manager, etc). I ensured that the buy-side understood the functionality of the trading system, and was confident in its performance and reliability. I coordinated the establishment of FIX connectivity from a buy-side order management system (OMS) to our trading system (our FIX server), and worked with the IT staff from one or more of: the buy-side firm, the buy-side's OMS vendor, and the buy-side's routing network provider. I developed custom FIX handling on our trading system to match

requirements of the buy-side, within the limitations of what was going to be delivered to via FIX and what was offered in the way of algorithm integrations.

8. All the above experience has given me extensive knowledge of the methods, processes, software and hardware used by others in the securities business to accomplish trade automation, as well as a detailed and expert understanding of the requirements and constraints placed on these systems by traders, portfolio managers and other financial services providers. Indeed, I have been associated with trading and trading technology since I started in the securities business, including explicit familiarity with the various innovations in crossing and matching trading systems.

9. I have reviewed the Shaw et al. patent application ("Shaw"), as well as the SEC reference and LimiTrader system discussed therein.

10. A key difference between Shaw and the LimiTrader system is that LimiTrader does not send a match notification message to each contraparty. Instead, LimiTrader sends a message only to parties with an existing order that is contra to a just-submitted order. Please see the SEC reference, page 3 at *8: "LimiTrader will dial-up the participant that entered the existing orders."

11. Indeed, LimiTrader dials two existing-order parties that are each contra to the party with the just-submitted order. Whoever responds first by contacting the party with the just-submitted order can begin a negotiation. Please see the SEC reference, page 3 at *8: "The first participant so notified that responds to the incoming order may begin an automated negotiation process."

12. After notifying existing-order parties only, the LimiTrader system has nothing further to do with the parties unless a trade results. Please see the SEC reference, page 3 at *8: "The Company is not involved in such negotiation and is not aware that a negotiation is occurring or has occurred unless a trade results."

13. Modifying the LimiTrader system to switch from notifying existing-order parties only to notifying both counterparties simultaneously would not have been obvious as of Shaw's May 1999 priority date, because it would entail significantly changing the stated purpose and very core of the LimiTrader system. The way users are informed of a potential match, as well as the

way users interact with the system and with each other, are fundamental operating principles of any matching system. Changing these aspects would thus alter LimiTrader's central purpose and basic operating principles.

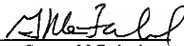
14. In addition, such a change would not have been obvious because certain advantages of LimiTrader's method and protocol for match notification would be lost. Specifically, contacting a fixed number of existing-order parties, as LimiTrader does, has a success probability, efficiency and speed advantage versus contacting the matching counterparties coincidentally, as Shaw does. If all matching counterparties are contacted coincidentally, there is a chance that one side or the other won't be interested. If only existing-order parties are contacted, as in LimiTrader, there is a high chance that at least one of the existing-order parties will be interested. Then when the existing-order party contacts the incoming-order party, the chances that a trade will occur are higher because the existing-order party is already guaranteed to be interested – otherwise it would not have contacted the incoming-order party.

15. Success probability, efficiency and speed are very important in trading system operations, and clearly it is important to LimiTrader. Indeed, the combined advantages of success probability, efficiency and speed is a key reason that LimiTrader calls two existing-order parties at a time – to speed up the trading process and increase the odds that at least one of the existing-order parties will be interested.

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7/3/10

Date



Gregory McFarland